

(e) Maximum altitude before deration.

(f) Engine model number.

**§ 7.91 Post-approval product audit.**

Upon request by MSHA, but no more than once a year except for cause, the approval holder shall make a diesel engine available for audit at no cost to MSHA.

**§ 7.92 New technology.**

MSHA may approve a diesel engine that incorporates technology for which the requirements of this subpart are not applicable if MSHA determines that the diesel engine is as safe as those which meet the requirements of this subpart.

**Subpart F—Diesel Power Packages Intended for Use in Areas of Underground Coal Mines Where Permissible Electric Equipment is Required**

SOURCE: 61 FR 55518, Oct. 25, 1996, unless otherwise noted.

**§ 7.95 Purpose and effective date.**

Part 7, subpart A general provisions apply to subpart F. Subpart F establishes the specific requirements for MSHA approval of diesel power packages intended for use in approved equipment in areas of underground coal mines where electric equipment is required to be permissible. It is effective November 25, 1996.

**§ 7.96 Definitions.**

In addition to the definitions in subparts A and E of this part, the following definitions apply in this subpart.

*Cylindrical joint.* A joint comprised of two contiguous, concentric, cylindrical surfaces.

*Diesel power package.* A diesel engine with an intake system, exhaust system, and a safety shutdown system installed.

*Dry exhaust conditioner.* An exhaust conditioner that cools the exhaust gas without direct contact with water.

*Exhaust conditioner.* An enclosure, containing a cooling system, through which the exhaust gases pass.

*Exhaust system.* A system connected to the outlet of the diesel engine which includes, but is not limited to, the exhaust manifold, the exhaust pipe, the exhaust conditioner, the exhaust flame arrester, and any adapters between the exhaust manifold and exhaust flame arrester.

*Fastening.* A bolt, screw, or stud used to secure adjoining parts to prevent the escape of flame from the diesel power package.

*Flame arrester.* A device so constructed that flame or sparks from the diesel engine cannot propagate an explosion of a flammable mixture through it.

*Flame arresting path (explosion-proof joint).* Two or more adjoining or adjacent surfaces between which the escape of flame is prevented.

*Flammable mixture.* A mixture of methane or natural gas with normal air, that will propagate flame or explode when ignited.

*Grade.* The slope of an incline expressed as a percent.

*High idle speed.* The maximum no load speed specified by the engine manufacturer.

*Intake system.* A system connected to the inlet of the diesel engine which includes, but is not limited to, the intake manifold, the intake flame arrester, the emergency intake air shutoff device, the air cleaner, and all piping and adapters between the intake manifold and air cleaner.

*Plane joint.* A joint comprised of two adjoining surfaces in parallel planes.

*Safety shutdown system.* A system which, in response to signals from various safety sensors, recognizes the existence of a potential hazardous condition and automatically shuts off the fuel supply to the engine.

*Step (rabbet) joint.* A joint comprised of two adjoining surfaces with a change or changes in direction between its inner and outer edges. A step joint may be composed of a cylindrical portion and a plane portion or of two or more plane portions.

*Threaded joint.* A joint consisting of a male- and female-threaded member, both of which are the same type and gauge.

*Wet exhaust conditioner.* An exhaust conditioner that cools the exhaust gas

through direct contact with water, commonly called a water scrubber.

**§ 7.97 Application requirements.**

(a) An application for approval of a diesel power package shall contain sufficient information to document compliance with the technical requirements of this subpart and include: drawings, specifications, and descriptions with dimensions (including tolerances) demonstrating compliance with the technical requirements of § 7.98. The specifications and descriptions shall include the materials of construction and quantity. These shall include the following—

(1) A general arrangement drawing showing the diesel power package and the location and identification of the intake system, exhaust system, safety shutdown system sensors, flame arresters, exhaust conditioner, emergency intake air shutoff device, automatic fuel shutoff device and the engine.

(2) Diesel engine specifications including the MSHA approval number, the engine manufacturer, the engine model number, and the rated speed, rated horsepower, and fuel rate.

(3) A drawing(s) which includes the fan blade material specifications, the location and identification of all water-cooled components, coolant lines, radiator, surge tank, temperature sensors, and orifices; arrows indicating proper flow direction; the height relationship of water-cooled components to the surge tank; and the proper procedure for filling the cooling system.

(4) A drawing(s) showing the relative location, identification of components, and design of the safety shutdown system.

(5) Specific component identification, or specific information including detail drawings that identify the characteristics of the cooling system and safety shutdown system that ensures compliance with the technical requirements.

(6) Detail drawings of gaskets used to form flame-arresting paths.

(7) An assembly drawing showing the location and identification of all intake system components from the air cleaner to the engine head.

(8) An assembly drawing showing the location and identification of all ex-

haust system components from the engine head to the exhaust outlet.

(9) Detail drawings of those intake and exhaust system components identified in paragraphs (a)(7) and (a)(8) of this section that ensure compliance with the technical requirements. An exhaust conditioner assembly drawing shall be provided showing the location, dimensions, and identification of all internal parts, exhaust inlet and outlet, sensors, and the exhaust gas path through the exhaust conditioner. If a wet exhaust conditioner is used, the exhaust conditioner assembly drawing must also show the location, dimensions, and identification of the fill port, drain port, low water check port; high or normal operating water level; minimum allowable low water level; and the maximum allowable grade that maintains explosion-proof operations.

(10) A power package checklist which shall consist of a list of specific features that must be checked and tests that must be performed to determine if a previously approved diesel power package is in approved condition. Test procedures shall be specified in sufficient detail to allow the evaluation to be made without reference to other documents. Illustrations shall be used to fully identify the approved configuration of the diesel power package.

(11) Information showing that the electrical systems and components meet the requirements of § 7.98.

(12) A drawing list consisting of a complete list of those drawings and specifications which show the details of the construction and design of the diesel power package.

(b) Composite drawings specifying the required construction details may be submitted instead of the individual drawings in paragraph (a) of this section.

(c) All documents shall be titled, dated, numbered, and include the latest revision.

(d) When all testing has been completed, the following information shall be submitted and become part of the approval documentation:

(1) The settings of any adjustable devices used to meet the performance requirements of this subpart.

(2) The coolant temperature sensor setting and exhaust gas temperature